

## **Remarks and Arguments**

### **The Rejection Under 35 U.S.C. §103(a)**

The Examiner maintained his rejection of Claims 1-28 under 35 U.S.C. §103(a) as being unpatentable over Housley et al. (US 2001/0007910) in view of Baldwin et al. (U.S. Patent No. 3,092,658). Applicants respectfully traverse the Examiner's rejection.

On August 28, 2007, a telephone interview was conducted between the undersigned, Kelly L. Cummings; one of the Applicants, Frank Belmonte; and U.S. Patent Examiner Taylor Victor Oh. The interview was requested by Applicants for the purpose of discussing the rejection.

During the telephone interview, Applicants reiterated the arguments set forth in their previous Amendment dated May 10, 2007 and addressed the Examiner's current rejection. At the conclusion of the interview, the Examiner indicated that the pending claims appear to be in condition for allowance, but that a final search needs to be conducted before the claims can be allowed.

As discussed during the telephone interview, Applicants agree with the Examiner that Baldwin et al. teach an oxidation system which operates at a higher pressure in the second stage. However, there are several other key differences between the teachings of Baldwin et al. and Applicants' invention. For instance, Baldwin et al. disclose a process which calls for introducing the total amount of feed mixture into a first oxidation stage. Unlike Applicants' invention, Baldwin et al. do not teach or suggest a process whereby a portion or all of the total amount of the feed mixture is introduced into a second oxidation stage. By introducing a portion of the feed mixture into the second oxidation stage, Applicants can control the vent oxygen such that low terephthalic acid color is obtained. As illustrated in Table 7 of Applicants' patent application, the color of the terephthalic acid product from Comparative Example A (which is the Baldwin et al. process configuration whereby all of the feedstock is fed to the first reactor which operates with high oxygen utilization) is very high (1.790) and significantly exceeds the color obtained from all of the other Examples of the present invention.

Applicants also explained during the interview that the Housley et al. process for producing a carboxylic acid or its ester by the oxidation of a corresponding precursor

operates in an entirely different temperature and pressure regime than Applicants' process. Indeed, there are no examples provided in Housley et al. and one skilled in the art would recognize that it is impractical, if not impossible, to operate at the recited conditions.

Furthermore, in contrast to Applicants' process, Housley et al. neither teach nor suggest recycling unreacted oxygen from the second oxidation stage to the first oxidation stage to obtain high oxygen utilization. Applicants respectfully disagree with the Examiner's statement that Housley et al. teach recycling unreacted oxygen from the second oxidation stage to the first oxidation stage in view of "recycled mother liquor **(which contains oxygen)**" (emphasis added). Nowhere in Housley et al. does it state that the recycled mother liquor contains oxygen. Even if the recycled mother liquor did contain oxygen, it would be an insignificant amount.

Lastly, in contrast to the present invention, neither Housley et al. nor Baldwin et al. disclose a process which introduces at least a portion of the condensed solvent from the first oxidation stage into the second oxidation stage. By sending a portion of the condensed solvent to the second oxidation stage, Applicants' process can run at a high enough catalyst concentration in the first oxidation stage to achieve the desired vent oxygen levels. Thus, neither Housley et al. nor Baldwin et al. teach or suggest a process which can maximize oxygen utilization. The Examiner cited page 3, paragraph 0033 of Housley et al. in the Office Action to refute this argument but, as explained to the Examiner during the telephone interview, the citation in Housley et al. refers to fresh feed, not condensed solvent from gas. Thus, it is not reasonable to assume that Housley et al.'s process reveals low terephthalic acid color like Applicants' process.

Accordingly, there would be no incentive for one skilled in the art to combine the teachings of Baldwin et al. into the Housley et al. process in order to obtain Applicants' inventive process which achieves both high oxygen utilization and low terephthalic acid product color.

**Conclusion**

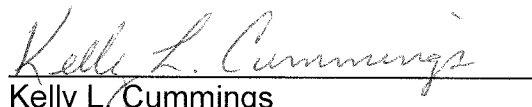
The Applicants respectfully request that the Examiner consider the foregoing arguments. Applicants submit that the subject claims are in condition for allowance and respectfully request allowance of these claims.

If the Examiner again rejects these claims, he is respectfully requested to call Applicants' attorney before issuing the rejection so that the patentable nature of the invention may be further discussed.

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Respectfully submitted,

Customer No. 04249  
Correspondence Address:  
BP America Inc.  
Docket Clerk, BP Legal, M.C. 5 East  
4101 Winfield Road  
Warrenville, Illinois 60555

  
Kelly L. Cummings  
Attorney for the Applicants  
Registration Number 39,646  
(630) 821-2452